

NOT FOR PUBLICATION

UNITED STATES DISTRICT COURT
DISTRICT OF NEW JERSEY

MACDERMID PRINTING SOLUTIONS, L.L.C.,	:	CIVIL ACTION NO. 07-4325 (MLC)
Plaintiff,	:	MEMORANDUM OPINION
v.	:	
E.I. DU PONT DE NEMOURS & COMPANY,	:	
Defendant.	:	
	:	

COOPER, District Judge

Plaintiff, MacDermid Printing Solutions, L.L.C. ("MacDermid"), commenced this action on September 11, 2007, against defendant, E.I. du Pont de Nemours & Company ("DuPont"), alleging, inter alia, that DuPont is directly infringing, and has or will induce others to directly infringe, one or more claims of its United States Patent No. RE39,835 E ("'835 patent"). (Dkt. entry no. 1, Compl.) MacDermid moves to preliminarily enjoin DuPont from directly or indirectly infringing its '835 patent. (Dkt. entry no. 3.) The Court has considered the papers submitted by the parties and heard oral argument on the motion on July 22, 2008. The Court hereby issues its findings of fact and conclusions of law with respect to the motion as required by Federal Rule of Civil Procedure 52. For the reasons stated herein, the Court will deny the motion.

BACKGROUND AND FACTUAL FINDINGS

I. Overview of Flexographic Printing Plates

Flexographic printing plates are used to print images on packaging materials such as flexible films, paper, labels, and cups, as well as newspapers and magazines. (Pl. Br., at 2; Def. Br., at 3 (explaining that a developed flexographic printing plate resembles a large rubber stamp).) A flexographic printing plate usually consists of a support layer and one or more photocurable or photopolymerizable layers, which are comprised of a binder, a monomer, an initiator, and other optional elements. (Pl. Br., at 2-3; Def. Br., at 3.)¹ When exposed to ultraviolet ("UV") light, portions of the photopolymerizable layer are cured or hardened. (Pl. Br., at 3.) The printer may then remove the noncured portions creating a relief plate that is used to print an image on packaging materials. (*Id.*)

To create an image on an analog flexographic printing plate, the printer places a silver halide photonegative or other masking device on top of the photopolymerizable layer. (*Id.* at 3; see Def. Br., at 3.) The photonegative has both clear and opaque portions, and is usually secured to the surface of the photopolymerizable layer by applying a vacuum. (Def. Br., at 3.)

¹ MacDermid uses the term "photocurable layer", but DuPont refers to the same layer as the "photopolymerizable layer". These terms are interchangeable. To avoid confusion, the Court will refer to this layer as the photopolymerizable layer, except when directly quoting from the '835 patent or MacDermid's briefs.

The photonegative blocks the UV light from hitting certain portions of the photopolymerizable layer and allows UV light to cure other portions of the photopolymerizable layer. (Pl. Br., at 3.) Because photonegatives are costly and time-consuming to prepare, may contain imperfections, and are environmentally unfriendly, alternative means of creating an image on a flexographic printing plate have been developed. (Id.) Such means are referred to as direct-to-plate ("DTP") processes or digital imaging. (Id.) A DTP or digital plate has a thin layer of material called an infrared or IR ablation layer that is laminated directly onto the surface of the photopolymerizable layer. (Def. Br., at 3-4.) "A computer using a digital image guides an infrared laser across the surface of the infrared ablation layer to selectively remove or 'ablate' portions of that layer thereby creating an 'in-situ mask' of the image to be printed on the surface of the photopolymerizable layer." (Id. at 4.) The in-situ mask has both clear and opaque portions. (Id.)

Once an analog or digital plate is imaged, the photopolymerizable layer is exposed to UV light through the photonegative or in-situ mask, causing the areas beneath the clear portions of the photonegative or in-situ mask to polymerize or harden. (Id. at 5; see Pl. Br., at 3.) The plate must also be "back-exposed" to UV light (i.e., the printer must also expose the support layer to UV light). (Def. Br., at 4.) Back-exposure

sensitizes the plate, improves adhesion between the support layer and the photopolymerizable layer, and creates a "floor" because the section of the photopolymerizable layer adjacent to the support layer polymerizes to a height above the support layer.

(Id.) This step establishes the depth of the relief in the finished plate, which is the distance between the printing surface and the floor. (Id. at 4-5.) A uniform floor ensures consistency in the printing process and prevents variations in printed images.

(Id. at 5.) Once the photopolymerizable layer is imaged using a photographic negative or a DTP process, the flexographic printing plate is "developed". (Pl. Br., at 4.) During development, the uncured portions of the photopolymerizable layer are removed so that only the cured portions remain. (Id.) There are a number of methods for developing a flexographic printing plate, including (1) using water and brushes, (2) using an "air knife" or forced air, and (3) heating the plate to cause the uncured parts to soften and then removing the softened uncured parts with an absorbent material or a blotter (i.e., thermal or dry development). (Id.)

MacDermid asserts that it "has been the innovator in the field of digital flexography over the last fifteen years." (Id. at 1 (emphasis in original).) MacDermid further asserts that it was the first to invent a digitally imaged flexographic printing plate containing an ablation layer in direct contact with the photopolymerizable layer. (Id.) MacDermid contends that DuPont

"has been a mere copier of MacDermid's innovations while falsely claiming that it is an innovator in the field of digital flexography." (Id. at 2.)

II. The '835 Patent

The '835 patent is directed to flexographic printing plates that are capable of being imaged by DTP processes. (Id. at 4.) The patent explains that analog imaging was typically performed in a vacuum while DTP imaging is performed in the presence of oxygen, which may inhibit polymerization of the photocurable material and thus necessitate longer exposure time. (Compl., Ex. A, '835 patent, at col. 2, lines 4-20.) Oxygen also acts as a UV screening agent causing attenuation of the UV light that reaches the photocurable material. (Id. at col. 2, lines 19-22.) Thus, UV exposure times for digital imaging are much longer than the exposure times for analog imaging. (Pl. Br., at 5.)

The '835 patent discloses "a method for producing direct-imaged flexographic printing elements such that both the front and back exposure times are economically efficient for the manufacturer." (Compl., Ex. A, '835 patent, at Abstract.) It is composed of 31 claims, but only claims 1, 10, 13, 19, 24, and 30 are independent. (See id. at cols. 10-14.) Further, MacDermid's direct and indirect infringement claims against DuPont focus only on claims 13-17, 24-26, and 30-31 of the '835 patent. (Pl. Br., at 1.)

Claim 13 discloses:

1. A method for producing a flexographic printing plate, said method comprising:
 - a) providing at least one solid photocurable printing element comprising:
 - (i) a support layer having an actinic radiation absorbing compound uniformly distributed throughout said support layer;
 - (ii) a layer of solid photocurable material disposed on said support layer;
 - (iii) an ablation layer that is disposed on said layer of solid photocurable material, wherein said ablation layer is substantially opaque to actinic radiation and is capable of being ablated by a laser;
 - b) transferring graphic data to said solid photocurable printing element by selectively ablating portions of said ablation layer with a laser to create an image;
 - c) back exposing said solid photocurable printing element to actinic radiation through said support layer;
 - d) exposing said solid photocurable printing element to actinic radiation through the portions of the ablation layer that have been ablated to cure the solid photocurable printing element; and
 - e) removing uncured photocurable material and any remaining ablation layer from said solid photocurable printing element.

(Compl., Ex. A, '835 patent, at col. 11, lines 61-67 through col. 12, lines 1-17; see id. at col. 12, lines 18-29 (listing claims 14-17, which depend upon claim 13).) Further, claim 24 describes:

- A flexographic printing plate element comprising:
- a) a support layer which is capable of absorbing between about 80% and 99% of the actinic radiation used to back expose said printing plate element;
 - b) at least one layer of solid photocurable material disposed on said support layer; and

- c) an ablation layer capable of being ablated by laser radiation and which is substantially opaque to actinic radiation.

(Id. at col. 13, lines 1-10; see id. at col. 13, lines 11-20 (listing claims 25-26, which depend upon claim 24).) Last, claim 30 describes:

A flexographic printing plate element comprising:

- a. a support layer comprising an actinic radiation absorbing compound uniformly distributed throughout said support layer;
- b. at least one layer of solid photocurable material disposed on said support layer; and
- c. an ablation layer capable of being ablated by laser radiation and which is substantially opaque to actinic radiation.

(Id. at col. 14, lines 13-22; see id. at col. 14, lines 23-25 (listing claim 31, which depends upon claim 30).)

MacDermid contends that there are numerous benefits to the technology disclosed in the '835 patent. (Pl. Br., at 6.) Such benefits include (1) "increased photospeed of the photocurable polymer in order to overcome oxygen inhibition created by digital imaging without a vacuum", which results in faster front exposure times, (2) avoidance of short back-exposure times, which creates a more uniform floor, (3) front and back-exposure times comparable to analog imaged plates, and (4) "the creation of higher quality printing plates with greater efficiency, greater consistency and greater simplicity theretofore known in the art of digital flexography." (Id. at 6-7.)

III. DuPont's Allegedly Infringing Products

DuPont's allegedly infringing products are its digital Cyrel® DFH45, DFM45, DFM67, and DPR67 plates (collectively, the "Cyrel Products"). (Id. at 1; Def. Br., at 6.) Each of the Cyrel Products has a support layer, a photopolymerizable layer, and an ablation layer. (Def. Br., at 6.) MacDermid's Director of Innovation, Dr. Timothy Gotsick ("Gotsick"), performed a series of experiments on and analyzed the Cyrel Products, and determined that they each contain (1) an ablation layer that is capable of being ablated by laser radiation, (2) an ablation layer that is substantially opaque to actinic radiation, (3) photocurable material disposed on the support layer, (4) a support layer comprised of polyethylene terephthalate, (5) a support layer capable of absorbing between 80% and 99% of the actinic radiation used to back-expose the plate, and (6) a support layer comprised of an actinic radiation absorbing compound that is uniformly distributed throughout the support layer. (Pl. Br., at 9.) Thus, MacDermid asserts that the Cyrel Products satisfy every limitation of at least claims 24-26 and 30-31 of the '835 patent. (Id.)

CONCLUSIONS OF LAW

MacDermid argues, inter alia, that DuPont should be preliminarily enjoined from infringing its '835 patent because (1) there is a strong likelihood that it will succeed in proving that DuPont directly or indirectly infringes at least one claim of the '835 patent, (2) it will be irreparably harmed by DuPont's continued infringement, (3) the balance of the hardships favors granting the injunction, and (4) the public interest favors granting the injunction. (See id. at 10-24.) In contrast, DuPont argues, inter alia, that it has "presented overwhelming evidence at the very outset of the case that the asserted claims of the . . . '835 patent are invalid as a matter of law and that the tests relied upon by MacDermid to support its infringement claim are at best unreliable." (Def. Br., at 10.) The findings and conclusions set forth in this opinion are preliminary only, and based upon the state of the record at this stage in the litigation. See Fed.R.Civ.P. 65(a). The parties have preserved all rights to present their disputes to a fact-finder for eventual adjudication on the merits.

I. Preliminary Injunctions in Patent Infringement Actions

The Court has the discretion to grant a preliminary injunction "to prevent the violation of any right secured by patent." 35 U.S.C. § 283; see Genentech, Inc. v. Novo Nordisk A/S, 108 F.3d 1361, 1364 (Fed. Cir. 1997). Injunctive relief is a "drastic and extraordinary remedy", which should be granted

only in limited circumstances. Nat'l Steel Car, Ltd. v. Canadian Pac. Ry., Ltd., 357 F.3d 1319, 1324 (Fed. Cir. 2004). To obtain such interim relief, a movant must demonstrate (1) a reasonable likelihood of success on the merits, (2) irreparable harm if the injunction is not granted, (3) that the balance of hardships favors granting the preliminary relief, and (4) that granting the preliminary relief is in the public interest. PHG Tech., LLC v. St. John Cos., Inc., 469 F.3d 1361, 1365 (Fed. Cir. 2006); Pfizer, Inc. v. Teva Pharm. USA, Inc., 429 F.3d 1364, 1372 (Fed. Cir. 2005); Genentech, Inc., 108 F.3d at 1364. “[A] movant cannot be granted a preliminary injunction unless it established both of the first two factors, i.e., likelihood of success on the merits and irreparable harm.” PHG Tech., LLC, 469 F.3d at 1365.

A. Reasonable Likelihood of Success on the Merits

To demonstrate a likelihood of success on the merits, the patent holder seeking the preliminary injunction must show that (1) “in light of the presumptions and burdens that will inhere at trial on the merits” infringement will likely be shown, and (2) the infringement claim will withstand challenges to the validity and enforceability of the patent. Genentech, Inc., 108 F.3d at 1364; see Entegris, Inc. v. Pall Corp., Nos. 04-1440, 05-1265, 05-1266, & 06-1374, 2007 U.S. App. LEXIS 13812, at *32 (Fed. Cir. June 13, 2007) (noting that patent holder seeking preliminary injunction bears burden of establishing likelihood of success on

merits as to patent's validity). Thus, the Court cannot issue a preliminary injunction if the opposing party raises a "substantial question" regarding the validity, enforceability, or infringement of the patent. Genentech, Inc., 108 F.3d at 1364; see Entegris, Inc., 2007 U.S. App. LEXIS 13812, at *32 (stating that preliminary injunction should not issue if alleged infringer raises substantial question regarding invalidity of patent).

1. Infringement

An infringement inquiry requires two steps. The Court must first determine the scope and meaning of the patent's claims. Markman v. Westview Instruments, Inc., 52 F.3d 967, 979 (Fed. Cir. 1995), aff'd, 517 U.S. 370 (1996). Construction of a patent's claims is a matter of law for the Court. Markman, 517 U.S. at 372 ("[T]he construction of a patent, including terms of art within its claim, is exclusively within the province of the Court.") Second, the allegedly infringing product is compared to each claim at issue to determine whether the product has every limitation contained in each claim or the substantial equivalent of any limitation not literally present. Amazon.com v. Barnesandnoble.com, 239 F.3d 1343, 1351 (Fed. Cir. 2001); Laitram Corp. v. Rexnord, Inc., 939 F.2d 1533, 1535 (Fed. Cir. 1991).

There is a "'heavy presumption' that a claim term carries its ordinary and customary meaning." CCS Fitness Inc. v. Brunswick Corp., 288 F.3d 1359, 1366 (Fed. Cir. 2002). The

ordinary and customary meaning of a claim term is the meaning a "person of ordinary skill in the art in question" would give to such term on the effective filing date of the patent application. Phillips v. AWH Corp., 415 F.3d 1303, 1313 (Fed. Cir. 2005). Such a person is deemed to interpret the claim term in the context of the entire patent, including the specification. Id. A claim term should generally be given its ordinary meaning unless the patentees "clearly set forth a definition of the disputed claim term in either the specification or prosecution history." CCS Fitness Inc., 288 F.3d at 1366. Thus, words in a claim are generally given their ordinary and customary meaning in the absence of a contrary indication in the patent specification or file history. Wolverine Worldwide, Inc. v. Nike, Inc., 38 F.3d 1192, 1196 (Fed. Cir. 1994).

When interpreting an asserted patent claim, the Court should look first to the intrinsic evidence of record, which includes the patent's claims, the patent's specification, and the complete prosecution history. Markman, 52 F.3d at 979. Such intrinsic evidence is the most significant source of the legally operative meaning of disputed claim language. Vitronic Corp. v. Conceptronic, Inc., 90 F.3d 1576, 1583 (Fed. Cir. 1996). In reviewing this intrinsic evidence, the Court considers the context in which a term is used within both the claim at issue and the claims that are not at issue. Phillips, 415 F.3d at

1314. Further, the Court must interpret claim terms in light of the specification. Id. at 1315 (noting that the specification is highly relevant to claim construction and usually dispositive).

The Court should also consider the patent's prosecution history. Id. at 1317; Graham v. John Deere Co., 383 U.S. 1, 33 (1966) ("It is, of course, well settled that an invention is construed not only in the light of the claims, but also with reference to the file wrapper or prosecution history in the Patent Office.") The doctrine of "prosecution history estoppel" requires that a patent's claims be interpreted in light of all proceedings that occurred during the patent application process before the United States Patent and Trademark Office ("PTO"). Festo Corp. v. Shoketsu Kinzoku Co., Ltd., 535 U.S. 722, 733 (2002) (noting that "prosecution history estoppel" ensures that claims are interpreted in light of those claims that were cancelled or rejected). Accordingly, the prosecution history is useful in claim construction because it demonstrates how the inventor limited the invention during the course of the patent prosecution, and thus, narrowed the scope of the ultimately patented product. Phillips, 415 F.3d at 1317. Nevertheless, because the prosecution history reflects the ongoing negotiations between the inventor and the PTO, it is often less clear and less useful than the specification. Id.

The ordinary meaning of claim language as understood by a person of skill in the art will be readily apparent to a lay judge

in some instances, after reviewing the intrinsic evidence, and claim construction will involve simply applying the widely accepted meanings of commonly understood words. Id. at 1314. In such circumstances, general purpose dictionaries may be helpful. Id. However, "heavy reliance on the dictionary divorced from the intrinsic evidence risks transforming the meaning of the claim term to the artisan into the meaning of the term in the abstract, out of its particular context, which is the specification." Id. at 1321.

2. Validity

A patent is presumed to be valid, and each of its claims are presumed valid independent of the validity of other claims. 35 U.S.C. § 282. A party asserting the invalidity of a patent or one or more of its claims has the burden of establishing such invalidity, which is satisfied only by clear and convincing evidence. Id.; Bausch & Lomb, Inc. v. Barnes-Hind/Hydrocurve, Inc., 796 F.2d 443, 446 (Fed. Cir. 1986). Clear and convincing evidence is evidence that proves in the mind of the trier of fact an abiding conviction that the truth of the factual contentions is highly probable. Intel Corp. v. U.S. Int'l Trade Comm'n, 946 F.2d 821, 830 (Fed. Cir. 1991). However, a party opposing a preliminary injunction need only raise a substantial question of invalidity. Entegris, Inc., 2007 U.S. App. LEXIS 13812, at *32. The "showing of a substantial question as to invalidity . . .

requires less proof than the clear and convincing showing necessary to establish invalidity itself." Id. (omission in original); Abbott Lab. v. Andrx Pharm., Inc., 452 F.3d 1331, 1335 (Fed. Cir. 2006) ("Vulnerability is the issue at the preliminary injunction stage, while validity is the issue at trial."). Thus, if the alleged infringer asserts an invalidity defense that the patent holder cannot prove "lacks substantial merit", the Court should not issue the preliminary injunction. Entegris, Inc., 2007 U.S. App. LEXIS 13812, at *32; see Genentech, Inc., 108 F.3d at 1364 (noting that the presumption that a patent is valid does not relieve a patentee moving for a preliminary injunction from demonstrating likely success on all disputed issues, even those concerning the patent's validity).

B. Irreparable Injury

The Court should presume that a patent holder will be irreparably harmed if such holder "establishes a strong showing of likely infringement of a valid and enforceable patent." Pfizer, Inc., 429 F.3d at 1381; see Cordis Corp. v. Boston Sci. Corp., 99 Fed.Appx. 928, 933 (Fed. Cir. 2004) ("Once a patentee shows a likelihood of success on the merits, the court's law presumes an irreparable harm."). But there are exceptions to the general rule that infringement of a valid patent inherently causes irreparable harm, including a finding that (1) future infringement is not likely, (2) the patent holder has licensed the patent, or (3) the

patent holder delayed in bringing the infringement action.

Pfizer, Inc., 429 F.3d at 1381; see Cordis Corp., 99 Fed.Appx. at 933-35 (acknowledging that delay in bringing an action, seeking monetary damages, granting licenses, and relative market effects are factors that may be considered when determining whether the defendant has rebutted the presumption of irreparable harm). If a presumption of irreparable harm attaches, the alleged infringer has the burden of producing sufficient evidence establishing that the patent holder would not be irreparably harmed by denial of the preliminary injunction. Pfizer, Inc., 429 F.3d at 1381. The presence of other infringers in the marketplace does not negate irreparable harm. Id.

C. Harm to Nonmoving Party

The Court must balance the hardships to ensure that the injunction would not harm the alleged infringer more than denial of the injunction would harm the patent holder. See id. at 1382. However, "an alleged infringer's loss of market share and customer relationships, without more, does not rise to the level necessary to overcome the loss of exclusivity experienced by a patent owner due to infringing conduct." Id.

D. The Public Interest

The public interest will almost always favor the plaintiff, if both a likelihood of success on the merits and irreparable injury are demonstrated. See Anton/Bauer, Inc. v. PAG, Ltd., 329

F.3d 1343, 1353 (Fed. Cir. 2003) (noting that the court need not address the public interest factor because the first two preliminary injunction factors were not present). Nevertheless, although the public has an interest in upholding the exclusive rights of a patent holder, this interest "cannot control in every case without obliterating the public interest component of the preliminary injunction inquiry." Cordis Corp., 99 Fed.Appx. at 935. Accordingly, the Court must still consider whether any strong public interests weigh against issuing a preliminary injunction in a patent infringement case. See id. at 935-36 (finding that the district court did not err in considering the public's strong interest in having a broad choice of drug-eluting stents in reaching its determination that a patent holder was not entitled to a preliminary injunction).

II. Legal Standards Applied Here

A. Reasonable Likelihood of Success on the Merits

DuPont offers a proposed construction for the phrase "support layer" as used in the '835 patent, but its arguments in opposition to MacDermid's preliminary injunction motion primarily challenge the validity of the '835 patent. (See Def. Br., at 10-20.) DuPont's only argument as to infringement is that Gotsick made a "serious blunder" in testing one of its Cyrel Products, which indicates that "MacDermid's testing is so suspect that it should not be relied upon for any purpose." (Id. at 20-21.)

Nevertheless, the Court will assume, for purposes of deciding this preliminary injunction motion only, that Gotsick's testing was reliable and correct, and DuPont's Cyrel Products contain every limitation contained in at least one of the '835 patent's claims. See Laitram Corp., 939 F.2d at 1535. The Court finds, however, that DuPont has raised substantial questions regarding the validity of the '835 patent, and thus, MacDermid cannot show a likelihood of success on the merits.

DuPont asserts, inter alia, that the '835 patent was obvious under 35 U.S.C. § ("Section") 103. (Def. Br., at 13-14.) Specifically, DuPont asserts that "MacDermid's purported invention of using a UV absorbing support with a digital plate was obvious" because it was well known that UV absorbing supports help extend back-exposure times and improve the uniformity of analog plate floors, and DuPont was already using UV absorbing supports with its digital plates when the '835 patent issued. (Id. at 14.) Further, DuPont contends that one skilled in the art would have combined two of its earlier patents to obtain a digital flexographic printing plate with a UV absorbing support layer as is claimed in the '835 patent. (Id. at 14-17.)

1. Legal Standards Governing Obviousness

Section 103 states in relevant part:

A patent may not be obtained if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to

a person having ordinary skill in the art to which said subject matter pertains.

35 U.S.C. § 103. Thus, a patent is invalid for obviousness if "the difference between the new thing and what was known before is not considered sufficiently great to warrant a patent." Graham, 383 U.S. at 14 (quoting H.R. Rep. No. 1923, at 7 (2d Sess. 1952)).

The Court must employ an expansive and flexible approach to the question of obviousness. KSR Int'l Co. v. Teleflex Inc., 127 S.Ct. 1727, 1739 (2007). In determining whether a claimed invention was obvious, the Court must objectively consider (1) the scope and content of the prior art, (2) the differences, if any, between the prior art and the claims at issue, and (3) the level of ordinary skill in the pertinent art ("the primary Graham factors"). Graham, 383 U.S. at 17; Bausch & Lomb, 796 F.2d at 447. The Court should also consider secondary factors such as the patented invention's commercial success, whether the patent satisfied a long-felt but unmet need, and the failure of others. Graham, 383 U.S. at 17-18; Bausch & Lomb, 796 F.2d at 447. "It is black letter law that the ultimate question of obviousness is a question of law." Richardson-Vicks Inc. v. Upjohn Co., 122 F.3d 1476, 1479 (Fed. Cir. 1997).

The law presumes that all prior art references are directly in front of the hypothetical person of ordinary skill. See In re Winslow, 365 F.2d 1017, 1020 (C.C.P.A. 1966). Accordingly, the Court cannot inquire into what patentees or inventors likely

would have done when faced with the prior art references, but instead must consider only what a person with conventional wisdom in the pertinent art would have done. See Standard Oil Co. v. Am. Cyanamid Co., 774 F.2d 448, 454 (Fed. Cir. 1985). Thus, the issue turns on whether the claimed subject matter, as a whole, would have been obvious to a person of ordinary skill at the time the invention was made. Union Carbide Corp. v. Am. Can Co., 724 F.2d 1567, 1575 (Fed. Cir. 1984); Panduit Corp. v. Dennison Mfg. Co., 810 F.2d 1561, 1566 (Fed. Cir. 1987); In re Beattie, 974 F.2d 1309, 1311 (Fed. Cir. 1992) (explaining that a claimed invention would have been obvious if "there is something in the prior art as a whole to suggest the desirability, and thus the obviousness, of making the [claimed] combination"); see In re Rouffet, 149 F.3d 1350, 1358 (Fed. Cir. 1998) ("This court forbids the use of hindsight in the selection of references that comprise the case of obviousness.").

"When a work is available in one field of endeavor, design incentives and other market forces can prompt variations of it, either in the same field or a different one. If a person of ordinary skill can implement a predictable variation, [Section] 103 likely bars its patentability." KSR Int'l Co., 127 S.Ct. at 1740. Similarly, if a person of ordinary skill in the art recognizes that a technique used to improve a device would improve similar devices, using the technique to make such improvements

would be obvious unless applying it is beyond such person's skill. Id. Thus, the Court should consider the interrelated teachings of multiple patents, the effects of the design community and marketplace demands, and the background knowledge of one skilled in the art in determining whether an invention was obvious. Id. at 1740-41. A patent is not obvious simply because each of its elements was known in the prior art. Id. at 1741 (stating that "it can be important to identify a reason that would have prompted a person of ordinary skill in the relevant field to combine the elements in the way the claimed new invention does"). However, "neither the particular motivation nor the avowed purpose of the patentee controls[, but instead] [w]hat matters is the objective reach of the claim." Id. at 1741-42.

2. Obviousness Standard Applied Here

The European Patent Office published DuPont's EP 0 504 824 B1 patent ("EP '824 patent") entitled "Photosensitive Printing Element" on January 14, 1998. (Dkt. entry no. 21-6, Critchley Decl., Ex. 4, EP '824 patent, at 1 (listing the filing date as March 18, 1992, and date of publication of the patent application as September 23, 1992).) The EP '824 patent states that it "relates to a photosensitive printing element which can be used to prepare a flexographic printing plate having improved printing characteristics." (Id. at 2, lines 6-7.) Further, the patent explains in the "Background of Invention" section that (1)

creating a flexographic printing plate from a photosensitive element is known in the art, (2) exposure to actinic radiation through the support produces a thin layer of polymerized material called a "floor", (3) the floor is frequently not uniform, which can cause defects during printing and diminish printing quality, and (4) "[t]he non-uniformities or bumps in the plate floor are believed to be caused by non-uniformities in the antihalation-containing adhesive layer between the support and the photosensitive layer." (Id. at 2, lines 17-28.)

The EP '824 patent states that its object is to provide a photosensitive element that may be used to create a flexographic printing plate in which the non-uniformity defects in the floor are substantially reduced. (Id. at 2, lines 34-36.) Moreover, in the "Detailed Description of the Invention" section of the patent, it explicitly states that "[t]he photosensitive printing elements of this invention can be used to prepare flexographic printing plates with a more uniform printing floor." (Id. at 3, lines 3-4.) The EP '824 patent then states that this uniformity is achieved by incorporating an antihalation agent into the support, which support is both transparent and flexible, and using an adhesive layer with no dyes or UV-absorbing materials. (Id. at 3, lines 4-6.)

The EP '824 patent explains that "transparent" means that the support transmits enough actinic radiation at a wavelength sufficient to activate the photoinitiating system and cause

polymerization. (Id. at 3, lines 6-8.) The patent further explains that the support is preferably made of polyester films such as polyethylene terephthalate, the same material used in the support layers of DuPont's Cyrel Products. (Id. at 3, lines 10-11.) After describing the composition of the support, the EP '824 patent then describes the antihalation agent incorporated into the support. (See id. at 3, lines 12-32.) The patent states that (1) halation is the loss of resolution (*i.e.*, halos around images) caused by scattered and reflected actinic radiation, (2) halation occurs in preparing flexographic printing plates when actinic radiation from exposure scatters and reflects at the back of the support and adhesive layer, and portions of the photopolymerizable layer polymerize when such polymerization was not desired, (3) the invention incorporates an antihalation layer into the support to avoid undesired polymerization, and (4) "the most effective antihalation agents are UV-absorbers." (Id. at 3, lines 11-25; see id. at 3, lines 27-29 (stating that the antihalation agent must be compatible with the polymer in the support film and result in a uniform and non-cloudy support film).)

Example 1 in the EP '824 patent describes the preparation of a support layer according to the invention. (Id. at 6, line 55 through 7, line 20.) Example 1 lists polyethylene terephthalate pellets and a UV absorber in the ingredients and notes that "UV absorbance at 349 NM is 1.8-2.0", which equates to absorbing

between 98.4% and 99% of the UV radiation. (Id. at 7, lines 1-9; see dkt. entry no. 21-11, Taylor Decl., at ¶ 19 (explaining relationship between optical density and percentage of UV absorbance).)

The PTO issued DuPont's United States Patent No. 5,262,275 ("'275 patent") entitled "Flexographic Printing Element Having an IR Ablatable Layer and Process for Making a Flexographic Printing Plate" on November 16, 1993. (Dkt. entry no. 21-6, Critchley Decl., Ex. 5, '275 patent, at 1 (listing the filing date as August 7, 1992).) The "Summary of the Invention" section of the '275 patent states that the present invention describes:

a photosensitive printing element used for preparing flexographic printing plates comprising

- (a) a support,
- (b) a photopolymerizable layer comprising an elastomeric binder, at least one monomer and an initiator having sensitivity to non-infrared actinic radiation, said layer being soluble, swellable or dispersible in a developer solution prior to exposure to actinic radiation,
- (c) at least one barrier layer which is soluble, swellable, dispersible or liftable in the developer solution for the photopolymerizable layer prior to exposure to actinic radiation, and
- (d) at least one layer of infrared radiation sensitive material which is substantially opaque to actinic radiation wherein the infrared-sensitive material is ablative from the surface of the barrier layer upon exposure to infrared laser radiation.

(Id. at col. 2, lines 13-31; see id. at col. 2, lines 32-45 (explaining that the patent also relates to a process for making

a flexographic printing plate comprising such elements).) Thus, the '275 patent relates to flexographic printing plates comprised of a support, a photopolymerizable layer, and an ablation layer, as well as the process for making such plates. (See id. at col. 2, lines 13-45 (summarizing invention); id. at col. 2, lines 49-54 (explaining that the invention combines "the convenience and sensitivity of infrared laser imaging with conventional photopolymerizable compositions to produce flexographic printing plates with known good printing quality quickly, economically, and by digital imaging means").)

The specification of the '275 patent generally describes the process of the invention as follows: (1) "imagewise ablate layer" to form a mask, (2) overall exposure of the photosensitive element to radiation through the mask (UV sources may be used), (3) areas not covered by radiation-opaque material are exposed to radiation and polymerize, (4) blanket exposure to actinic radiation through the support (back-exposure) in order "to create a shallow layer of polymerized material, or a floor, on the support side of the photopolymerizable layer and to sensitize the photopolymerizable layer", and (5) develop image by washing with a suitable developer. (Id. at col. 9, lines 4-53, col. 10, lines 3-50.)

The specification explains that the floor created by back-exposure provides improved adhesion between the support and the photopolymerizable layer, helps highlight dot resolution, and

establishes the depth of the relief in the finished plate. (Id. at col. 10, lines 8-11.) Further, the specification states that the support layer can be any flexible material traditionally used with photosensitive elements, but notes that the "particularly preferred" material is polyethylene terephthalate. (Id. at col. 2, lines 59-66.)

This Court, after reviewing the EP '824 patent and the '275 patent, concludes that DuPont has raised substantial questions regarding whether the '835 patent was obvious in light of these prior art references. The '835 patent is a reissue patent of United States Patent No. 6,413,699 ("'699 patent"), which was filed on October 11, 1999 and issued on July 2, 2002. (Compl., Ex. A, '835 patent (listing the reissue date of the '835 patent as September 11, 2007).) On both the date the '699 patent issued and the reissue date of the '835 patent, the EP '824 patent and '275 patent were known to persons skilled in the art. The '835 patent describes the same technology and processes disclosed in the earlier issued '275 patent, including (1) ablation of an imagewise ablation layer to form a mask in the form of the desired image, (2) overall exposure of the photopolymerizable layer to radiation through the mask, which causes polymerization of the areas that are under the ablated areas of the ablation layer (i.e., areas not covered by radiation-opaque material polymerize), (3) back-exposure to actinic radiation through the

support in order to create a floor, and (4) development by removing uncured portions of the photopolymerizable layer.

(Compare id. at col. 11, lines 61-67 through col. 12, lines 1-17 with dkt. entry no. 21-6, Critchley Decl., Ex. 5, '275 patent, at col. 9, lines 4-53, col. 10, lines 3-50.) However, MacDermid asserts that the '835 patent also sets forth an "innovative set of solutions" to the problems caused when a digital flexographic printing plate does not have a uniform floor. (See Pl. Br., at 6.) Specifically, the '835 patent discloses that floor formation may be improved by "either forming the support layer from a material that inherently absorbs UV light or by modifying the support to include a UV absorbing material within the support." (Id.)

The Court finds, however, that DuPont has raised substantial questions regarding whether before October 11, 1999, one skilled in the art would have understood the importance of having a uniform floor in a digital flexographic printing plate, and incorporated the UV absorbing materials discussed in connection with the support layers of analog plates in the EP '824 patent into the support layers of digital plates. (See dkt. entry no. 21-6, Critchley Decl., Ex. 5, '275 patent, at col. 10, lines 8-11 (recognizing importance of the floor by explaining that the floor provides improved adhesion between the support and the photopolymerizable layer and helps highlight dot resolution).)
See Abbott Lab., 452 F.3d at 1335 (stating that showing a

substantial question as to invalidity requires less proof than the clear and convincing standard.) The EP '824 patent, which was filed on March 18, 1992 and published on January 14, 1998, explains, inter alia, that a non-uniform plate floor can cause defects during printing and diminish printing quality. (Dkt. entry no. 21-6, Critchley Decl., Ex. 4, EP '824 patent, at 2, lines 23-26.) Moreover, the EP '824 patent states that a uniform plate floor may be achieved by incorporating an antihalation agent into the support, and the most effective antihalation agents are UV absorbers. (Id. at 3, lines 4-6, 21-22, 27-29 (stating that the antihalation agent must be compatible with the polymer in the support film and result in a uniform and non-cloudy support film).) Thus, a person of ordinary skill in the art in 1999 would have recognized that the technique employed in the EP '824 patent to improve floor uniformity in analog plates, namely the incorporation of an antihalation agent such as a UV absorber into the support layer, would also improve the floor quality of digital plates described in patents such as the '275 patent. See KSR Int'l Co., 127 S.Ct. at 1740. Accordingly, considering the interrelated teachings of these patents, as well as the effects of the design community, marketplace demands, and what would have been the background knowledge of one skilled in the art before October of 1999, the Court concludes that there are substantial questions concerning whether the "innovative set

of solutions" offered in the '835 patent would have been obvious to one skilled in the art. *Id.* at 1740-41; *see id.* at 1741-42 ("What matters is the objective reach of the claim.")

When a patent "only unites old elements with no change in their respective functions . . . [it] obviously withdraws what is already known in the field of its monopoly and diminishes the resources available to skillful men." *Id.* at 1739 (omission in original) (citation omitted). DuPont has raised substantial questions regarding whether it would have been obvious to one skilled in the art to essentially "unite old elements" by combining the digital flexographic printing plate technology disclosed in the '275 patent with a support containing UV absorbing material that creates a more uniform floor after back-exposure, as described in the EP '824 patent. *See id.* The Court notes that the EP '824 patent even gives an example of how to prepare a support layer using (1) polyethylene terephthalate pellets, the material used in the support layer of the Cyrel Products and listed as the "preferred" support material in the '835 patent, and (2) a UV absorber that absorbs between 98.4% and 99% of the UV radiation, which is similar to the '835 patent describing a support layer capable of absorbing between 80% and 99% of the actinic radiation during back-exposure. (Dkt. entry no. 21-6, Critchley Decl., Ex. 4, EP '824 patent, at 7, lines 1-9; *see* dkt. entry no. 21-11, Taylor Decl., at ¶ 19; Compl., Ex.

A, '835 patent, col. 6, lines 20-27, col. 7, lines 22-8 (stating that "most preferably" the support absorbs about 88% of the actinic radiation), col. 13, lines 2-4.)

The Court also finds that MacDermid has not shown that DuPont's asserted defense that the '835 patent is invalid for obviousness under Section 103 lacks substantial merit. See Entegris, Inc., 2007 U.S. App. LEXIS 13812, at *32 (stating that if the alleged infringer asserts an invalidity defense that the patent holder cannot prove "lacks substantial merit", the Court should not issue the preliminary injunction). MacDermid argues that (1) the patent examiner considered the '275 patent and EP '824 patent in issuing the '835 patent, (2) the '275 patent relates to digital plates whereas the EP '824 patent relates to analog plates, and thus, combining them would not have been obvious to one skilled in the art, and (3) the '275 patent and EP '824 patent teach away from the claimed inventions of the '835 patent. (Pl. Reply Br., at 9.)²

² MacDermid's arguments in its initial brief regarding the secondary Graham factors of long-felt need and the commercial success of the '835 patent do not overcome the Court's conclusion that there are substantial questions regarding whether the '835 patent was an obvious combination of elements in the prior art. The Court has objectively considered the scope and content of the prior art, as well as the differences between the prior art and the '835 patent, before reaching its determination that DuPont has raised substantial questions regarding the obviousness of the '835 patent under Section 103. See Graham, 383 U.S. at 17; Bausch & Lomb, 796 F.2d at 447. The Court has also considered the applicable secondary factors, but applying a flexible

The Court does not agree with MacDermid's assertion that the '275 patent and the EP '824 patent teach away from the inventions of the '835 patent. As discussed in detail above, the Court has determined that when viewed in combination, these two patents would suggest to one skilled in the art that a UV absorbing base layer would extend back-exposure times and improve floor formation in digital as well as analog plates. Moreover, the Court does not see why one skilled in the art would not apply the UV absorbing material described in the EP '824 patent, which relates to analog plates, to digital plates. While there are important differences between analog and digital plates with respect to front exposure to actinic radiation and the creation of the image, there are no differences with respect to back-exposure or the need for a uniform floor in the support layer. In other words, adding UV absorbing material to the support solves the same floor uniformity problems in digital plates as it solves in analog plates. (See Def. Br., at 18; Def. Power Point

approach to the question of obviousness, we find that these secondary factors do not alter our determination. See KSR Int'l Co., 127 S.Ct. at 1745 (finding that no secondary factors "dislodged" the court's determination that claim 4 of the patent at issue was obvious); Leapfrog Enter., Inc. v. Fisher-Price, Inc., 485 F.3d 1157, 1162 (Fed. Cir. 2007) (stating that the court had no basis to disagree with the district court's statement that although there was substantial evidence of commercial success, praise, and long-felt need, "given the strength of the *prima facie* obviousness showing, the evidence on secondary considerations was inadequate to overcome a final conclusion that claim 25 would have been obvious").

Pres., at 39 (noting that DuPont used the same UV absorbing base layer, Cronar 773X, in its new digital plates as it had used in its analog plates).)

The Court also does not believe that the prosecution history of the '835 patent supports MacDermid's position that the patent was not obvious. As noted above, the '835 patent is a reissue patent of MacDermid's '699 patent, which contains only claims 1 through 12 of the '835 patent. Although the patent examiner may have considered the '275 patent and the EP '824 patent in issuing MacDermid's '699 patent, there is no evidence suggesting that the examiner considered the EP '824 patent in reviewing MacDermid's application for the reissue '835 patent, which added the claims at issue here. (Dkt. entry nos. 21-3 to 21-4, Critchley Decl., Ex. 2, Prosecution History of '835 Patent, at B29, B76, Information Disclosure Citation Forms (disclosing relevant United States and foreign patents); id., at B70-B73, Detailed Action (rejecting claims 1-29 as obvious and unpatentable in light of the '275 patent as well as other patents); id. at B77, Not. of References Cited (listing only the '275 patent and one additional patent); id. at B135-B139, Information Disclosure Citation Form (listing numerous relevant United States and foreign patents, including the '275 patent and the EP '824 patent, in connection with amendments to the reissue '835 patent application); id. at B150-B151, Not. of References Cited (listing numerous United

States and foreign patents, including the '275 patent and the EP '824 patent).)

The patent examiner initially rejected claims 1 through 29 of the '835 patent as obvious in light of the prior art, including the '275 patent. (Id., at B70-B73, Detailed Action (rejecting claims 1-29 as obvious and unpatentable).) MacDermid then filed an amendment and response that added additional claims and argued that the prior art cited by the patent examiner in rejecting the initial 29 claims of the '835 patent were "not properly combinable to achieve the rejection made" and "even if combined . . . do not reveal the claimed invention." (Id. at B84-B105.) The patent examiner later issued a Notice of Allowability as to the '835 patent. (Id. at B144, Not. of Allowability.) In allowing claims 1 through 31, the patent examiner provided no analysis and simply stated that "[a]ll rejections of record are withdrawn in light of Applicant's persuasive arguments and the data presented in the Declaration filed October 13, 2006." (Id. at B145, Detailed Action.) The EP '824 patent is one of numerous cited references listed but not discussed by the patent examiner. (Id. at B147-B154, Not. of References Cited (listing more than 100 United States and foreign patents as references cited).) Thus, the prosecution does not suggest that the patent examiner actually considered the EP '824 patent in allowing the '835 patent's claims. At most, the prosecution history indicates that

the examiner considered the '275 patent in combination with other prior art. Accordingly, the prosecution history does not prove that DuPont's obviousness defense lacks substantial merit. See Entegris, Inc., 2007 U.S. App. LEXIS 13812, at *32.³

The Court concludes that MacDermid has not overcome the substantial questions related to DuPont's obviousness defense based on the present record. Thus, MacDermid has not shown that it has a substantial likelihood of success on the merits. Accordingly, granting a preliminary injunction would not be appropriate here. See Genentech, Inc., 108 F.3d at 1364. The Court notes, however, that our holding should not imply that the record supports a determination that the '835 patent is invalid, or that summary judgment of patent validity is not possible on a more fully developed record. See Abbott Lab., 452 F.3d at 1335

³ The Court also notes that the Supreme Court issued the KSR opinion after the patent examiner allowed claims 1 through 31 of the '835 patent. See KSR Int'l Co., 127 S.Ct. 1727 (decided April 30, 2007). In response to the patent examiner's initial rejection of claims 1 through 29 of the '835 patent as obvious, MacDermid argued, inter alia, that the examiner relied on prior art that was not combinable. (See dkt. entry nos. 21-3 to 21-4, Critchley Decl., Ex. 2, Prosecution History of '835 Patent, at B95.) The Court does not agree with DuPont that "in view of the KSR decision, the Patent Office could never have allowed the RE '835 patent to issue." (Def. Br., at 18.) However, we conclude that because KSR provides additional guidance with respect to the defense of obviousness, the patent examiner would have analyzed MacDermid's arguments in response to the initial rejection differently in light of the Supreme Court's statements in KSR. Thus, it is unclear whether KSR would have altered the examiner's ultimate decision to allow the '835 patent's claims.

(noting that “[v]ulnerability is the issue at the preliminary injunction stage, while validity is the issue at trial”).⁴

B. Irreparable Harm, Balance of Hardships, and the Public Interest

Because we have determined that MacDermid has not shown a likelihood of success on the merits with respect to the '835 patent's validity, the Court need not address the remaining preliminary injunction factors. PHG Tech., LLC, 469 F.3d at 1365 (explaining that a preliminary injunction cannot be granted unless movant establishes likelihood of success on the merits).

CONCLUSION

The Court, for the reasons stated supra, will deny the motion. The Court will issue an appropriate order.

s/ Mary L. Cooper
MARY L. COOPER
United States District Judge

Dated: September 4, 2008

⁴ In light of the Court's holding with respect to DuPont's arguments under Section 103, the Court will not address DuPont's remaining invalidity arguments, particularly its arguments under Section 102, at this time. We will also not address whether Section 252 bars an injunction on reissue claims, such as the claims at issue here. See 35 U.S.C. § 252.